Colposcopy Primer

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Colposcopy History

- Early 1920's--Hinselman in Germany
- 1925 Colposcope Invented By Hinselman
- 1929 Levy increased magnification
- 1931 Emmerit introduced to United States
- 1954 Bolten moved to New Orleans and set up first Colposcopic Clinic

Colpo History Cont..

- 1964--American Society for Colposcopic and Cervical Pathology Began
- 1991 Bethesda System Introduced
- 2001 Bethesda II Revises Nomenclature
- Colposcopy continues to evolve with improvements in Pathologic criteria and defined treatment protocols

Significance of HPV Infection

- HPV Type (103 types so far)
- Risk Factors for HPV
- Incidence
- Transmission
- Natural History
- HPV and Cervical Cancer

HPV Types

103 Types now identified

High Risk

16,18,45,56

Low (or no)Risk

6,11,40,41,42,43,44,

46,47,48,49

Intermediate Risk

31,33,35,51,52

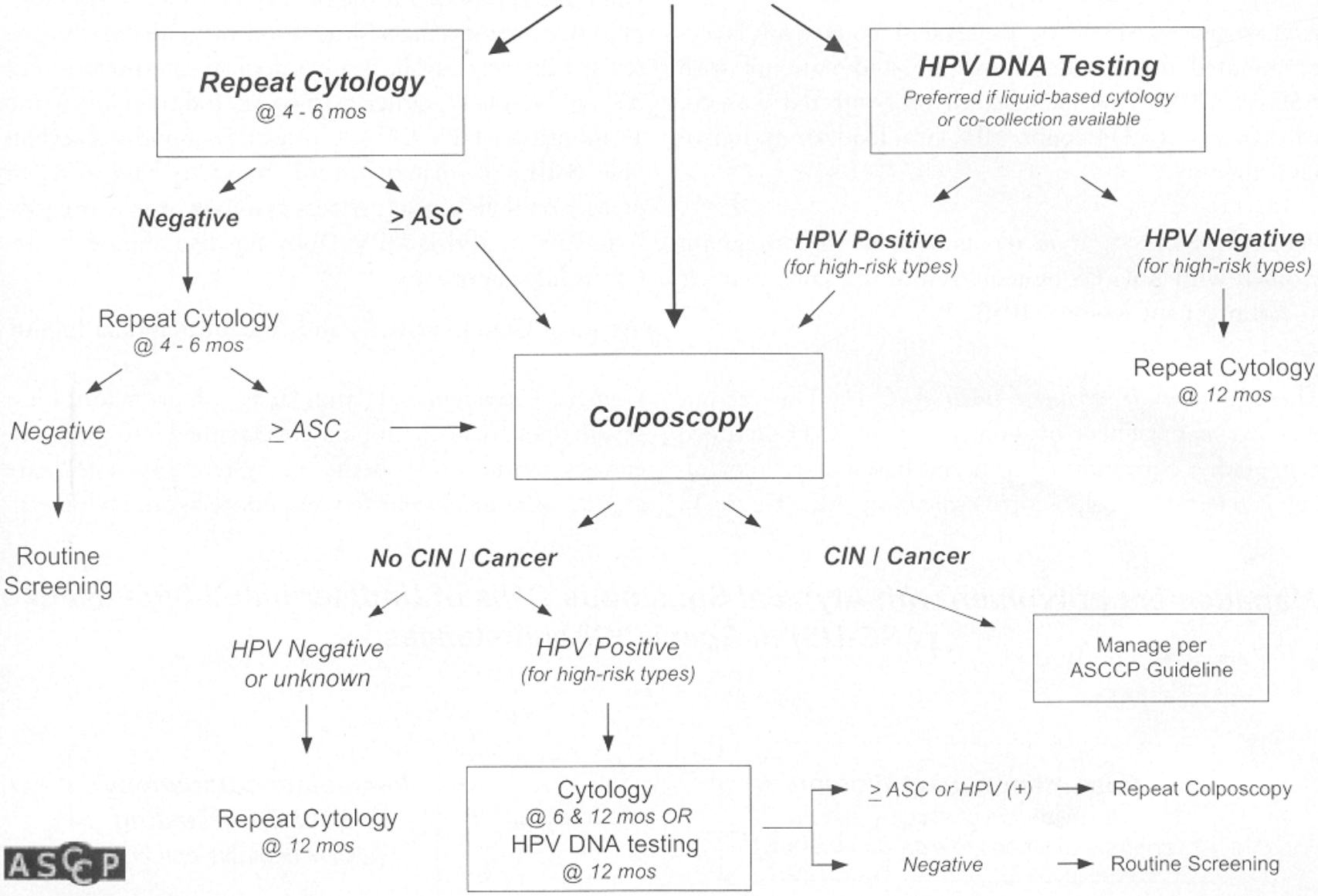
Condyloma Types

6,11

Cofactors in the promotion of Neoplasia

Risk Factor	Relative Risk
HIV Infection	Very High
Moderate Dysplasia in past 5 years	Very High
Intercourse within 1 year of menarche	16
No Prior Screening	10
6 or more lifetime partners	5
Low SEC	5
Black race compared to white	2.5
Cigarette Smoking	2
Oral Contraceptive Use	1.2-1.5
Herpes Chlamydia and other STD's	Increased ? amount
Barrier Contraceptive Use	.6

Management of Women with Atypical Squamous Cells of Undetermined Significance (ASC-US)



Pap Smear Follow up

- Within Normal Limits--Follow up in 1 Year (or Longer Depending on patient)
- Atrophy--estrogen Cream for 4 weeks then discontinue Cream and pap 1 week later

Pap Smear F/U cont.

- ASC-US--4 approaches:

1. Repap every 4-6 mos for 1-2 years
2. Divide into categories:

   ASC-US --F/U pap in 4-6 mos then colposcopy if ASC-US Continues

   ASC-H --Colposcopy and if normal then pap at 6 and 12 months

3. Colposcope all ASC-US

   75% will be completely normal, unnecessary cost, overdiagnosis of trivial changes, and overtreatment.

4. Adjunctive Tests

   Low Risk Women, Low Risk HPV, or HPV negative then repap in 12 mos

   High Risk Women or High Risk HPV then directly to Colposcopy and if normal every 6 and 12 mos

Pap Smear F/U cont.

- AGC (New 2002)–
  - Colposcope All and do ECC
    - -EMB if age > 35 yo
- LGSIL --Colpo and if normal 6 and 12 mos pap smears
- HGSIL-- Colposcopy

Cytopathologist's Role is Limited

- On Cytology: Normal or Abnormal Smear
- On histology: Cancer or Not Cancer
- The rest is Clinical

Indications for Colposcopy

- Pap with dysplasia or Cancer
- Pap with unexplained atypia
- Pap with HPV
- Suspicious visible lesion on cervix
- History of DES Exposure

Strong Consideration for Colposcopy

- Visible Condyloma
- History of Genital Warts
- Unexplained vaginal discharge, vulvodynia
- Sexual partner with condyloma
- History of current STD's
- Multiple Sexual Partners

Contraindications to Colposcopy

- Active GC or Chlamydia
- Non cooperative patient
- Pregnancy precludes ECC but biopsy is permissible
- Heavy Menses

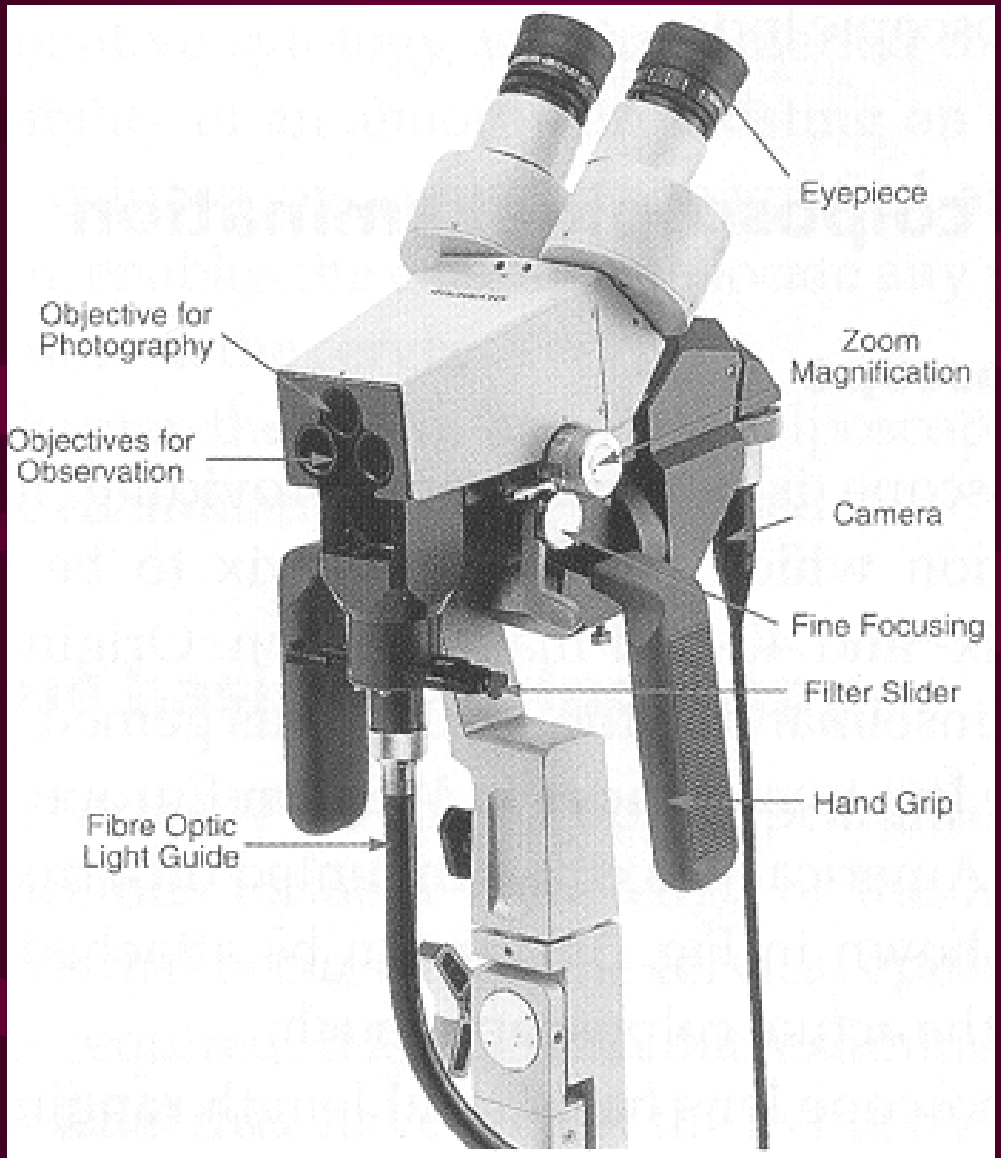
Basic Satisfactory Requirements of Colposcopic Exam

- Adequate Visualization
- Entire TZ Zone seen
- Abnormal areas seen in entirety
- Endocervical Canal free of Dysplasia
- No Evidence of Invasive Cancer
- Abnormal Areas Biopsied
- ECC Completed (Non-Pregnant patients)

Technique of Colposcopy

- Equipment:
  - Colposcope- binocular 30 cm focal length
  - Comfortable adjustable exam table
  - Acetic Acid
  - Monsel's Solution
  - Silver Nitrate

Colposcope


Eyepiece
Objective for Photography
Zoom Magnification
Objectives for Observation
Camera
Fine Focusing
Filter Slider
Hand Grip
Fibre Optic Light Guide

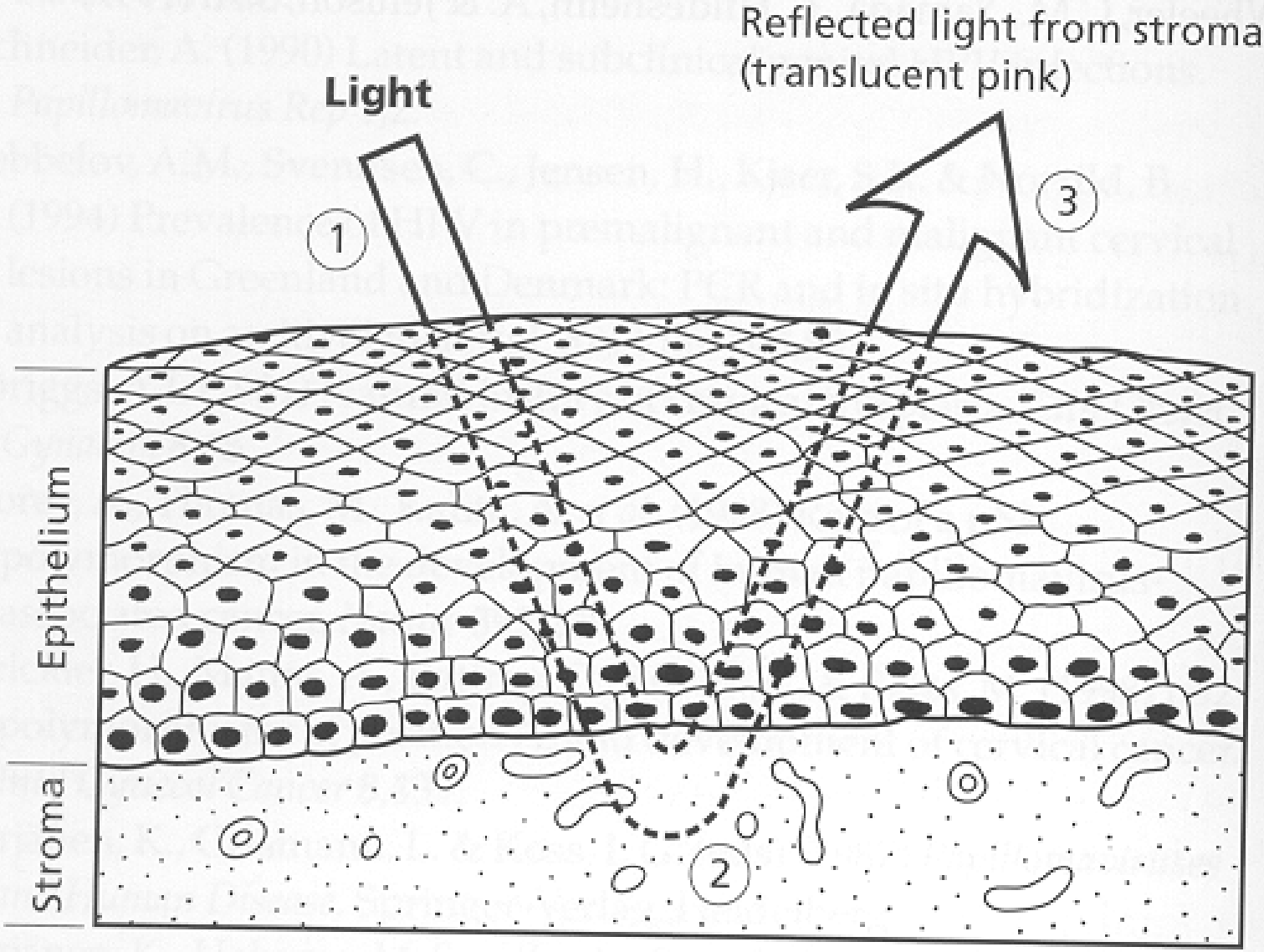


Fig. 3.1 Normal epithelium.

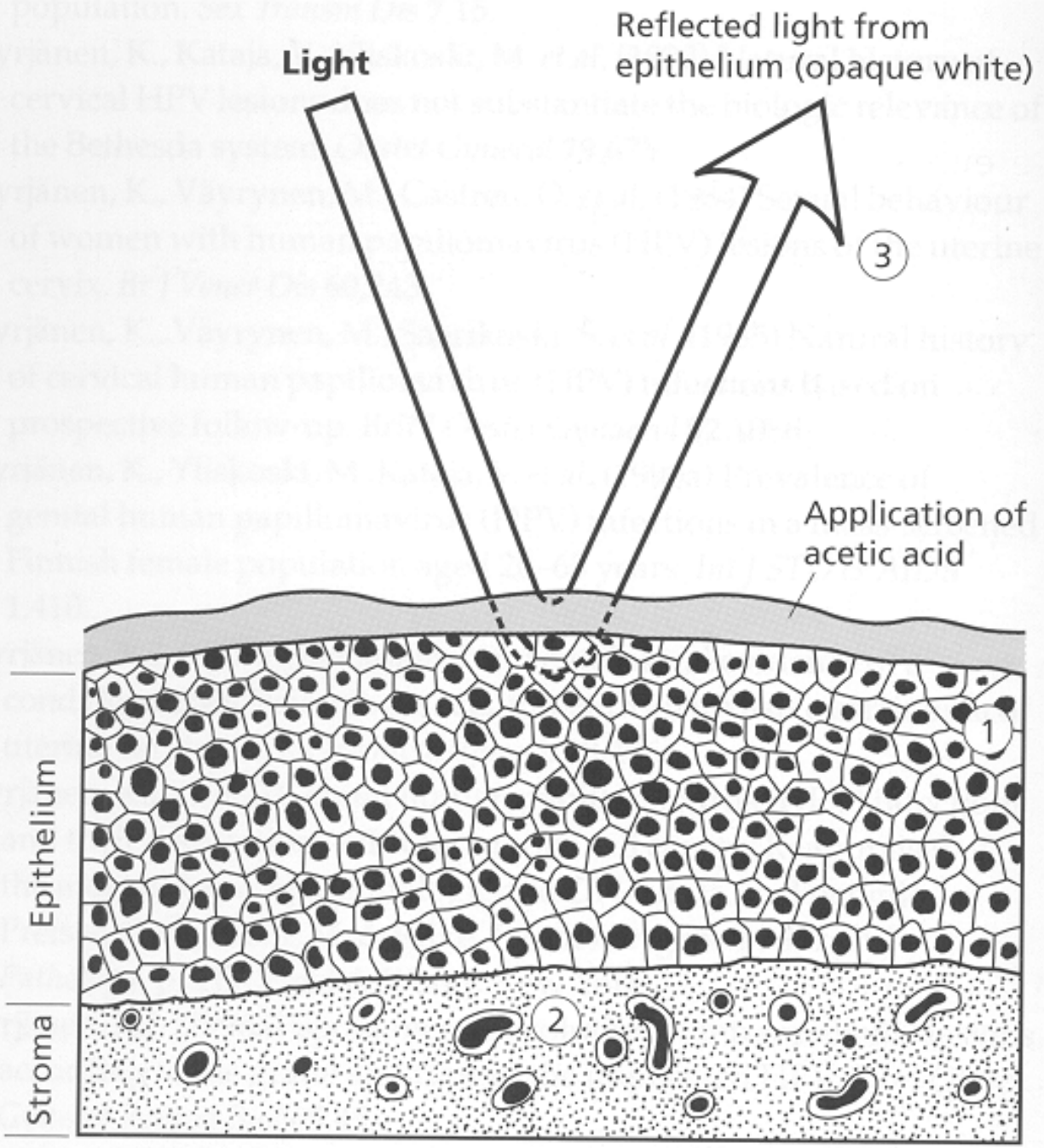


Fig. 3.2 Abnormal (atypical) epithelium (CIN).

Technique of Colposcopy

- Instruments
  - Speculum
  - Biopsy forceps
  - Lateral Retractors
  - Endocervical speculum

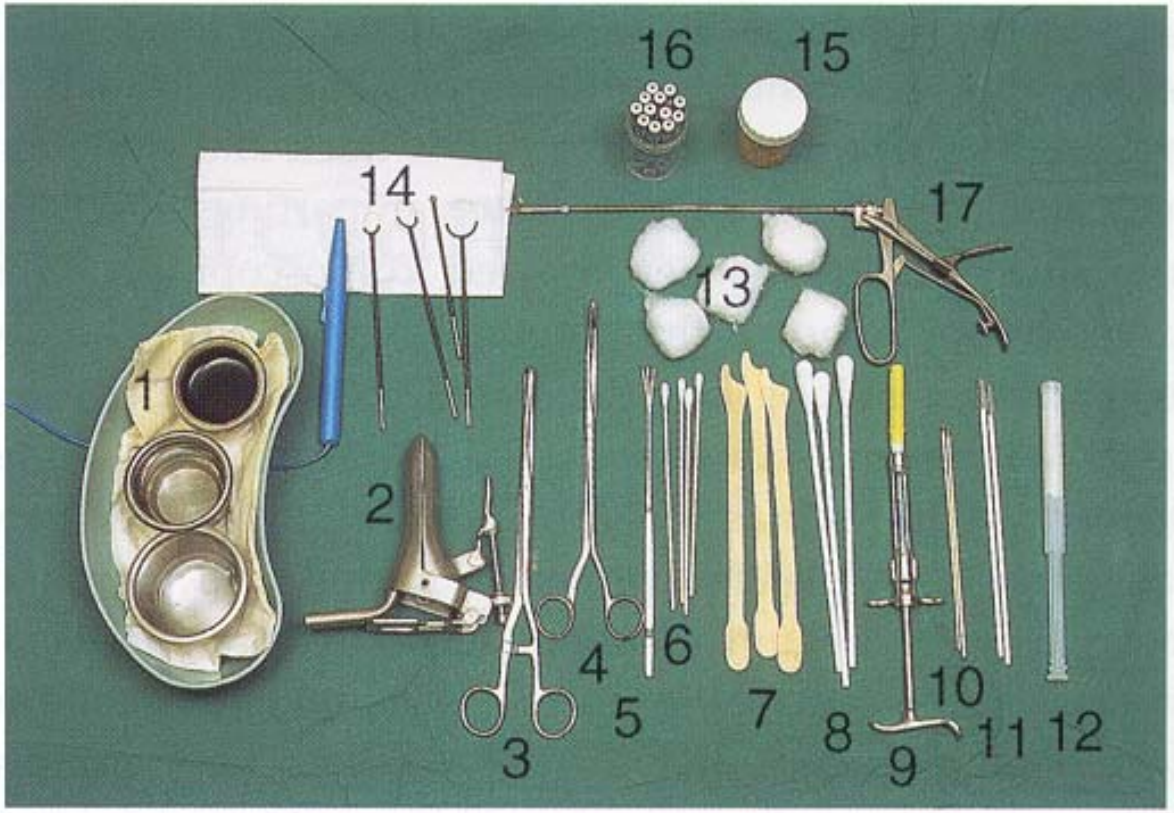


Fig. 3.4 A typical tray used in colposcopy: 1, pots with solution (acetic acid, saline, and Lugol's iodine); 2, vaginal speculum; 3, sponge-holding forceps; 4, Desjardin's endocervical forceps; 5, three-pronged probe for retraction; 6, cotton-tipped fine swab sticks; 7, Aylesbury cytology spatula; 8, larger cotton-tipped swab sticks; 9, local anesthetic syringe; 10, silver nitrate sticks for hemostasis; 11, endocervical brushes; 12, antibiotic cream; 13, cotton swabs; 14, diathermy electrodes for diagnosis or treatment; 15, Monsell's solution (ferric subsulfate); 16, local anesthetic ampules; 17, Eppendorfer cervical biopsy forceps.

Systemic Approach to Colposcopy

- Clinical Workup
- Locate Source of Abnormal Cells
- Distal Margin
- Proximal Margin
- Targeting Biopsy
- Recording

Colposcopic Examination

1. Prepare Colposcopy Room
2. Prepare Patient for Colposcopy
3. Obtain Informed Consent
4. Obtain Urine Pregnancy test as Needed
5. Perform bimanual exam, palpate vagina
6. Insert appropriate speculum
7. Examine vaginal fornices and cervix

Colposcopic Exam cont..

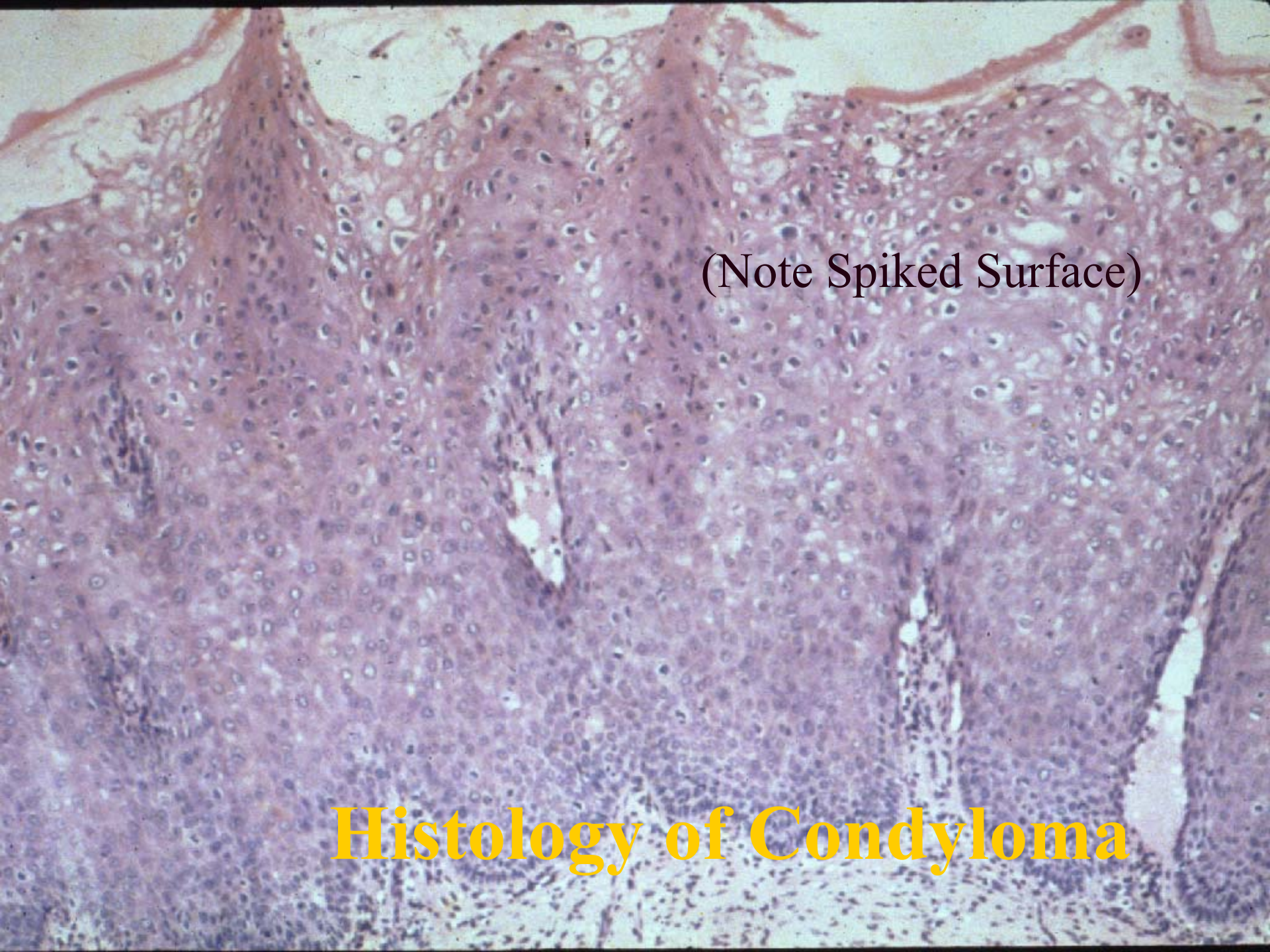
8. Obtain Pap, cultures, KOH as Needed
9. Apply 5% Acetic Acid
10. Perform Cervical Colposcopic Exam
11. Use Green Filter if Needed
12. Mentally Map Cervical Landmarks and abnormal areas
13. Is Exam Satisfactory?

Colposcopic Exam cont..

14. Perform ECC
15. Perform Cervical Biopsies
16. Apply Monsel's As Necessary
17. Reinspect Vagina after removal of Speculum
18. Examine Vulva and Anus as Necessary
19. Allow Patient time to recover and dress
20. Draw a picture of Findings

Colposcopic Exam cont..

21. Discuss today's findings with patient
22. Provide post-procedure instructions
23. Make arrangements to discuss results


(Note Spiked Surface)
Histology of Condyloma

Treatment of CIN

- Close Follow Up
- Cryotherapy
- LEEP
- Laser
- Excision (CKC)

Follow-UP after Therapy

- Usually paps every 4 months for 1 year
- May need further therapy or closer follow-up
- Individualization is Patient Dependent

Other Colposcopy

- Pregnancy
- DES
- Vagina
- Vulva
- Male Partner
- Cervicography
- PapNet
- Thinprep
- Autopap and AutoCyte Screen

Pap Net

- Recent literature shows it takes over $1000 in spending before one more case of LGSIL is picked up.
- Few if any insurances will pay for it
- Structure of examination may be changed in the future

Thin Prep

- Virtually 100% of sample is collected
- Process disperses and homogenizes sample laying out a representative thin layer on the slide.
- Slide is clear of obscuring elements and has excellent cellular preservation
- Sample may be repeated without needing patient to return
- Viral types may be back-ordered to help clarify patients with ASC-US and LGSIL paps
- Most insurance companies now cover Thin Prep

Summary

- Rarely or never screened women are the most important target for reducing cervical cancer
- Bethesda changes are minor in patient triage
- New methods are yet to prove their cost and clinical effectiveness

References available upon request.

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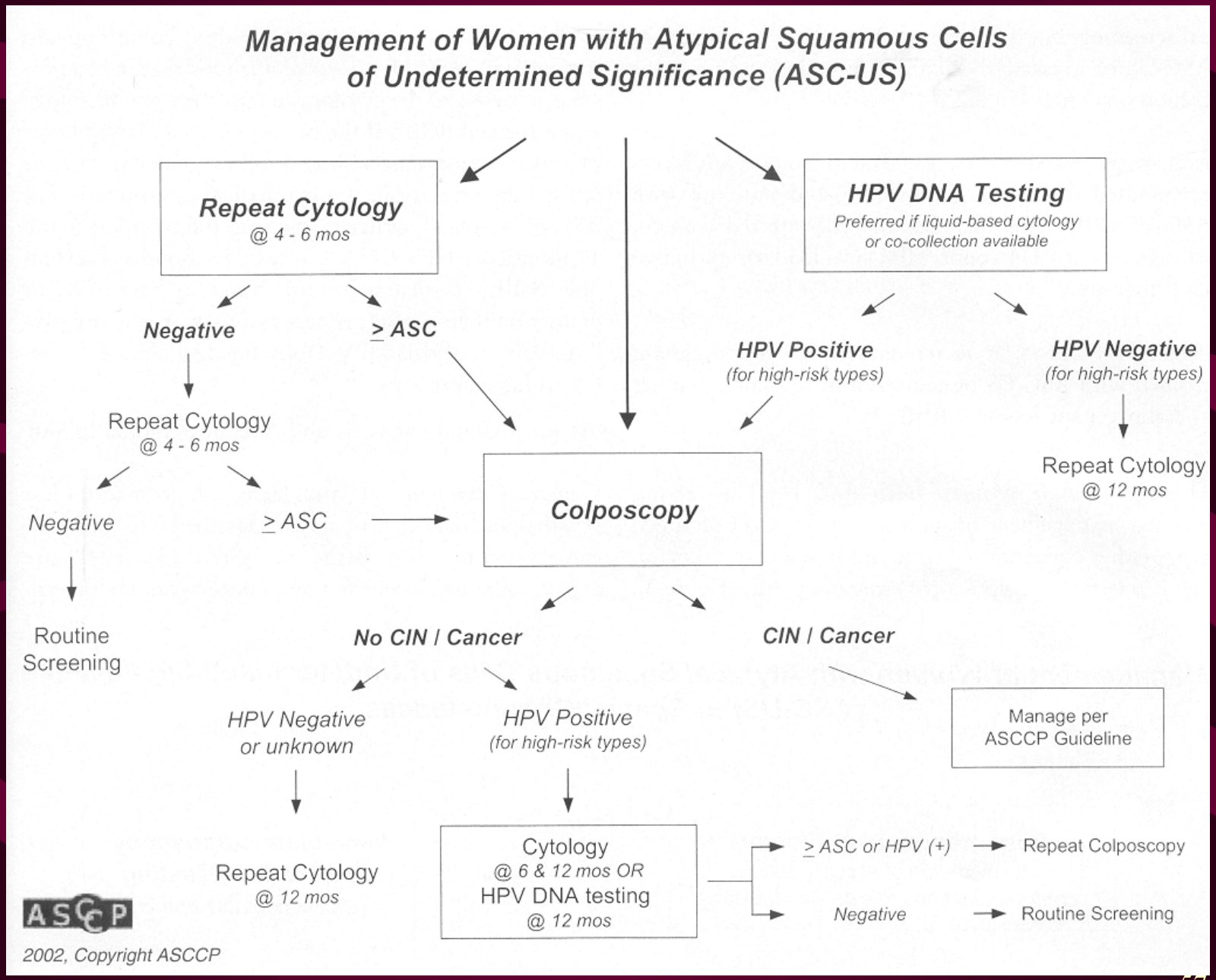
Management of Women with Atypical Squamous Cells of Undetermined Significance (ASC-US)
Repeat Cytology
@ 4 - 6 mos
HPV DNA Testing
Preferred if liquid-based cytology or co-collection available
Negative
≥ ASC
HPV Positive
(for high-risk types)
HPV Negative
(for high-risk types)
Repeat Cytology
@ 4 - 6 mos
Repeat Cytology
@ 12 mos
Negative
≥ ASC
Colposcopy
Routine Screening
No CIN / Cancer
CIN / Cancer
HPV Negative or unknown
HPV Positive
(for high-risk types)
Manage per ASCCP Guideline
Repeat Cytology
@ 12 mos
Cytology
@ 6 & 12 mos OR
HPV DNA testing
@ 12 mos
≥ ASC or HPV (+)
Repeat Colposcopy
Negative
Routine Screening
ASCCP
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Management of Women with Atypical Squamous Cells of Undetermined Significance (ASC-US) In Special Circumstances

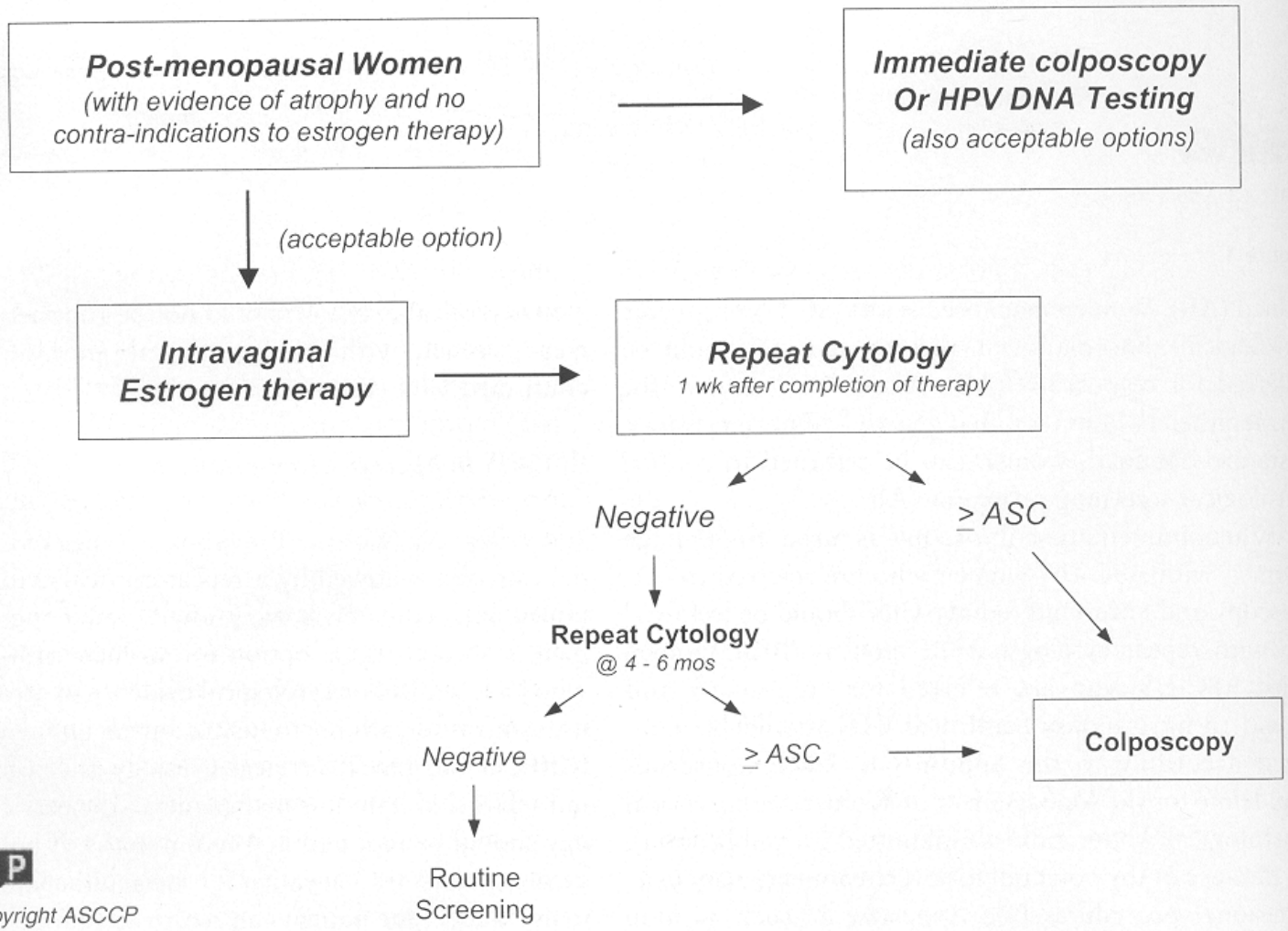

Figure 2.

Management of Women with Atypical Squamous Cells: Cannot Exclude High-grade SIL (ASC - H)

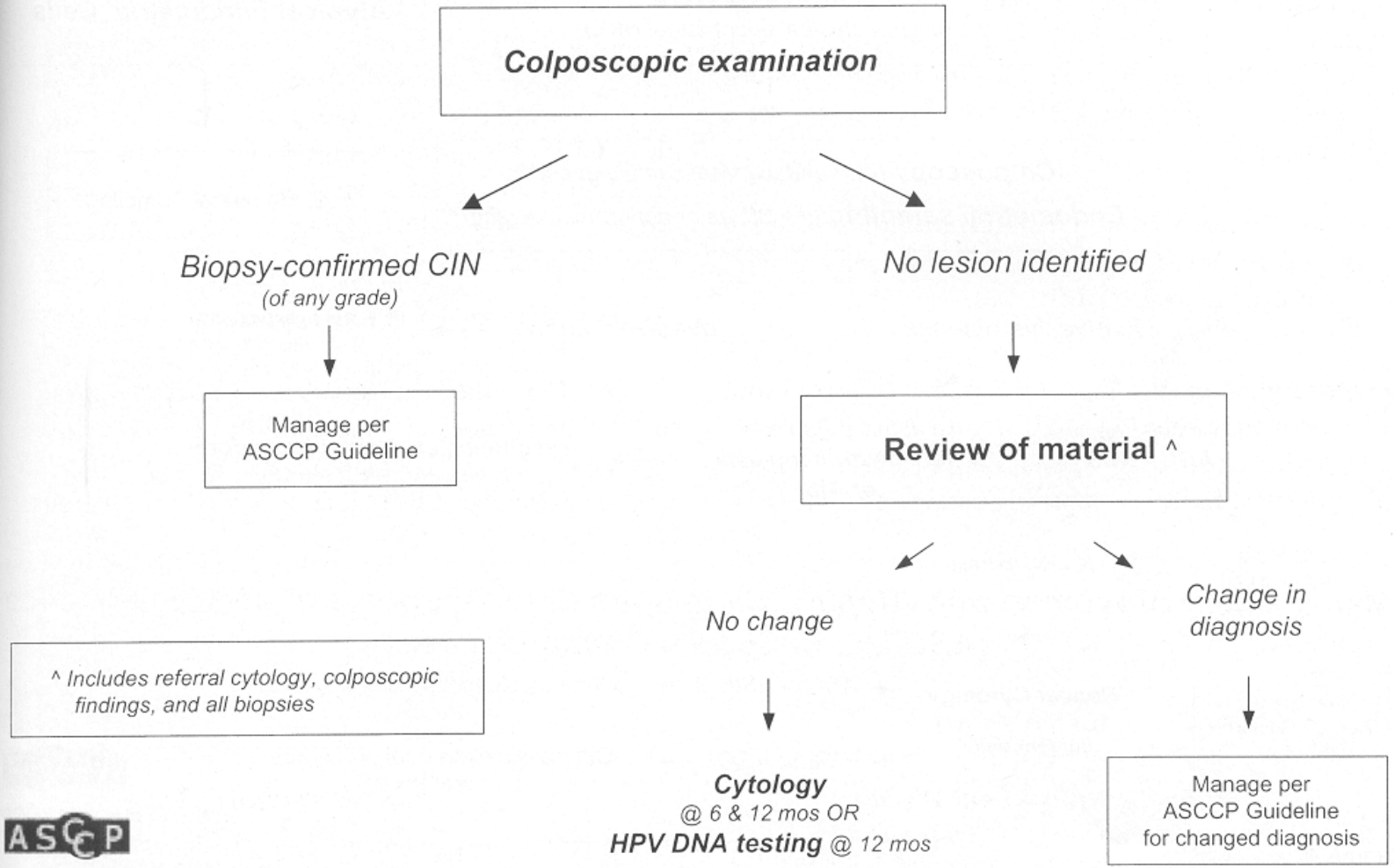

Figure 3.

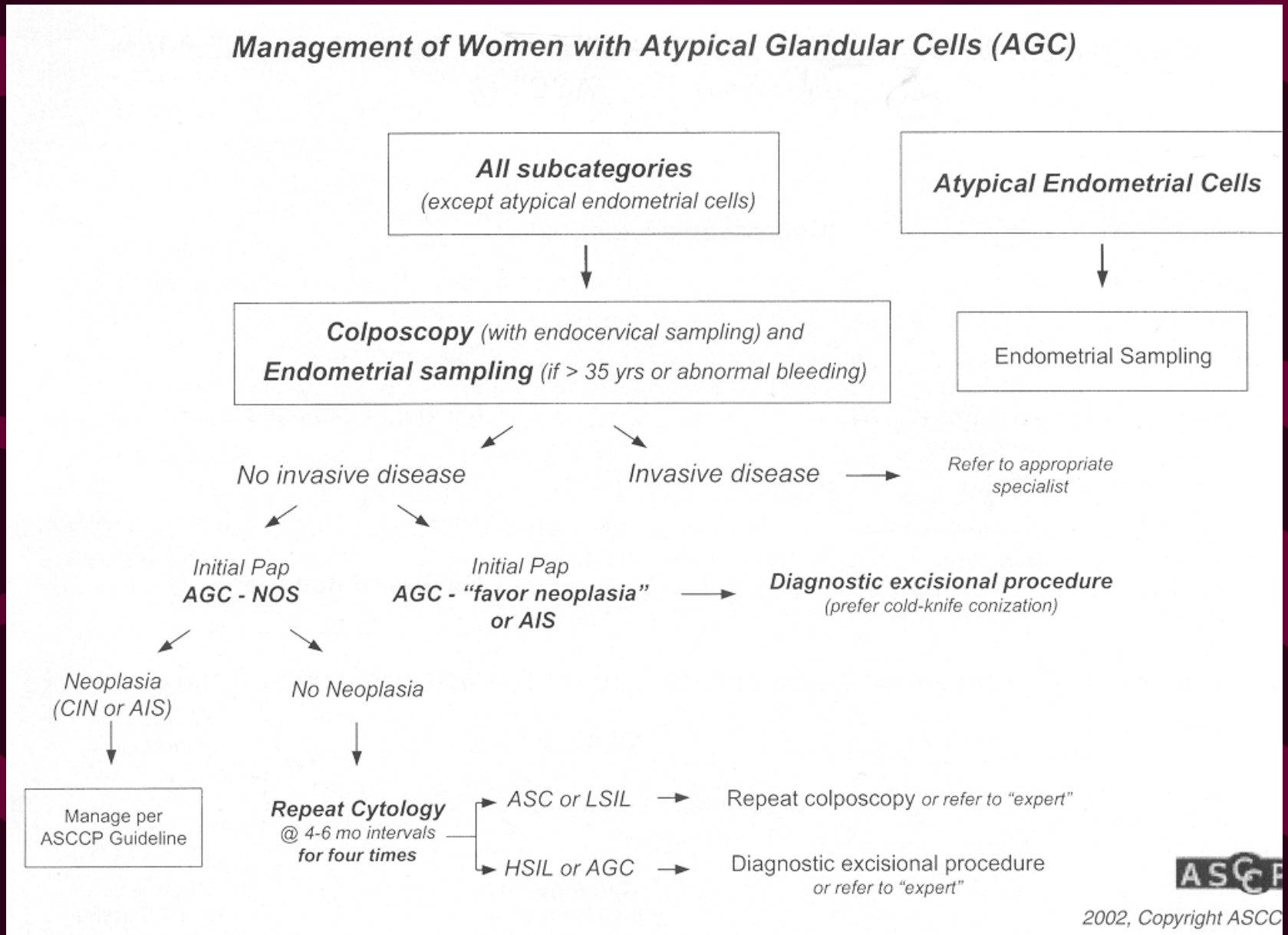
Management of Women with Atypical Glandular Cells (AGC)
All subcategories
(except atypical endometrial cells)
Atypical Endometrial Cells
Colposcopy (with endocervical sampling) and
Endometrial sampling (if > 35 yrs or abnormal bleeding)
Endometrial Sampling
No invasive disease
Invasive disease
Refer to appropriate specialist
Initial Pap
AGC - NOS
Initial Pap
AGC - "favor neoplasia" or AIS
Diagnostic excisional procedure
(prefer cold-knife conization)
Neoplasia
(CIN or AIS)
No Neoplasia
Manage per ASCCP Guideline
Repeat Cytology
@ 4-6 mo intervals
for four times
ASC or LSIL
Repeat colposcopy or refer to "expert"
HSIL or AGC
Diagnostic excisional procedure
or refer to "expert"
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Figure 4.

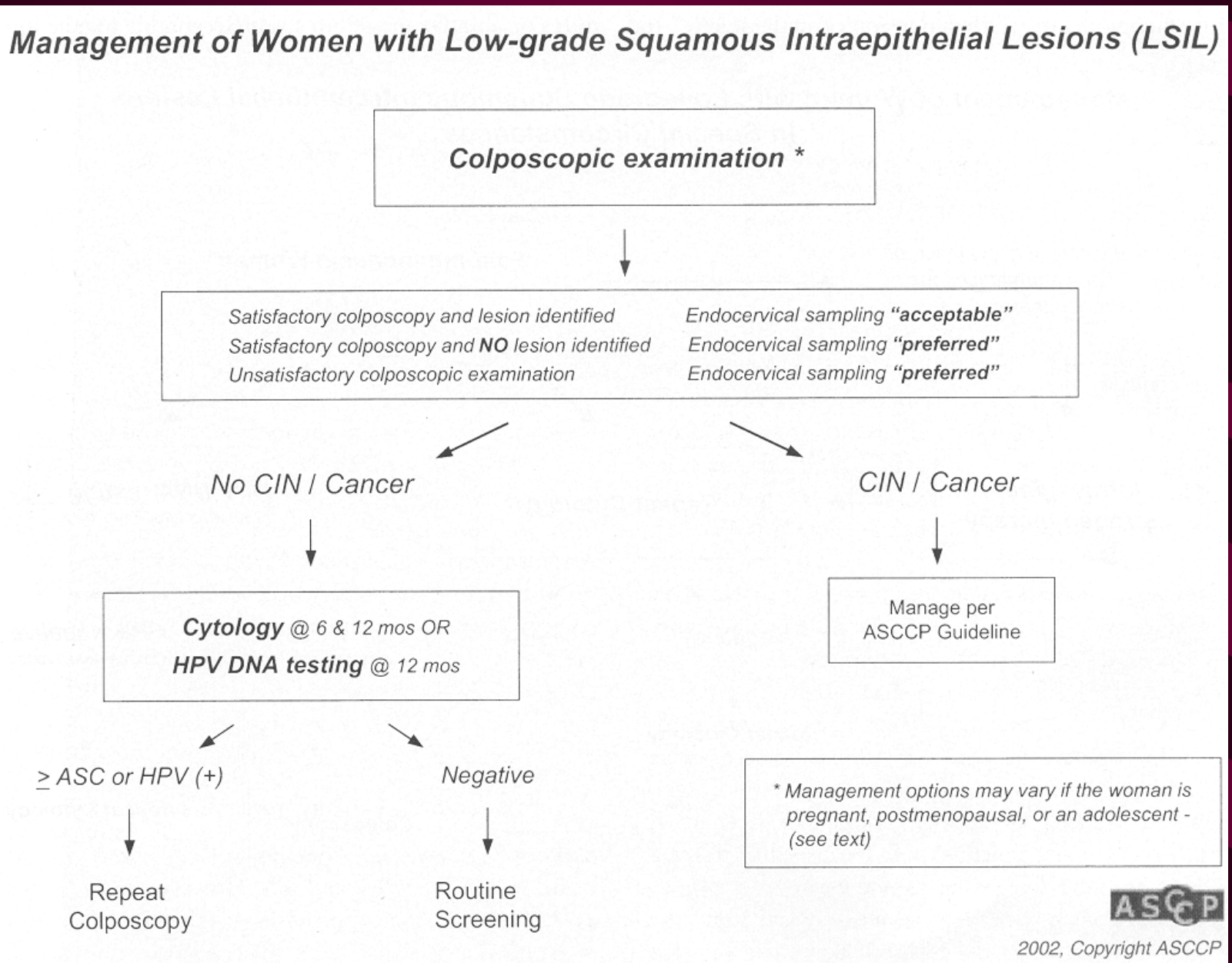
Management of Women with Low-grade Squamous Intraepithelial Lesions (LSIL)
Colposcopic examination *
Satisfactory colposcopy and lesion identified
Satisfactory colposcopy and NO lesion identified
Unsatisfactory colposcopic examination
Endocervical sampling "acceptable"
Endocervical sampling "preferred"
Endocervical sampling "preferred"
No CIN / Cancer
CIN / Cancer
Cytology @ 6 & 12 mos OR
HPV DNA testing @ 12 mos
Manage per
ASCCP Guideline
≥ ASC or HPV (+)
Negative
* Management options may vary if the woman is pregnant, postmenopausal, or an adolescent - (see text)
Repeat
Colposcopy
Routine
Screening
ASCCP
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Figure 5.

Management of Women with Low-grade Squamous Intraepithelial Lesions In Special Circumstances

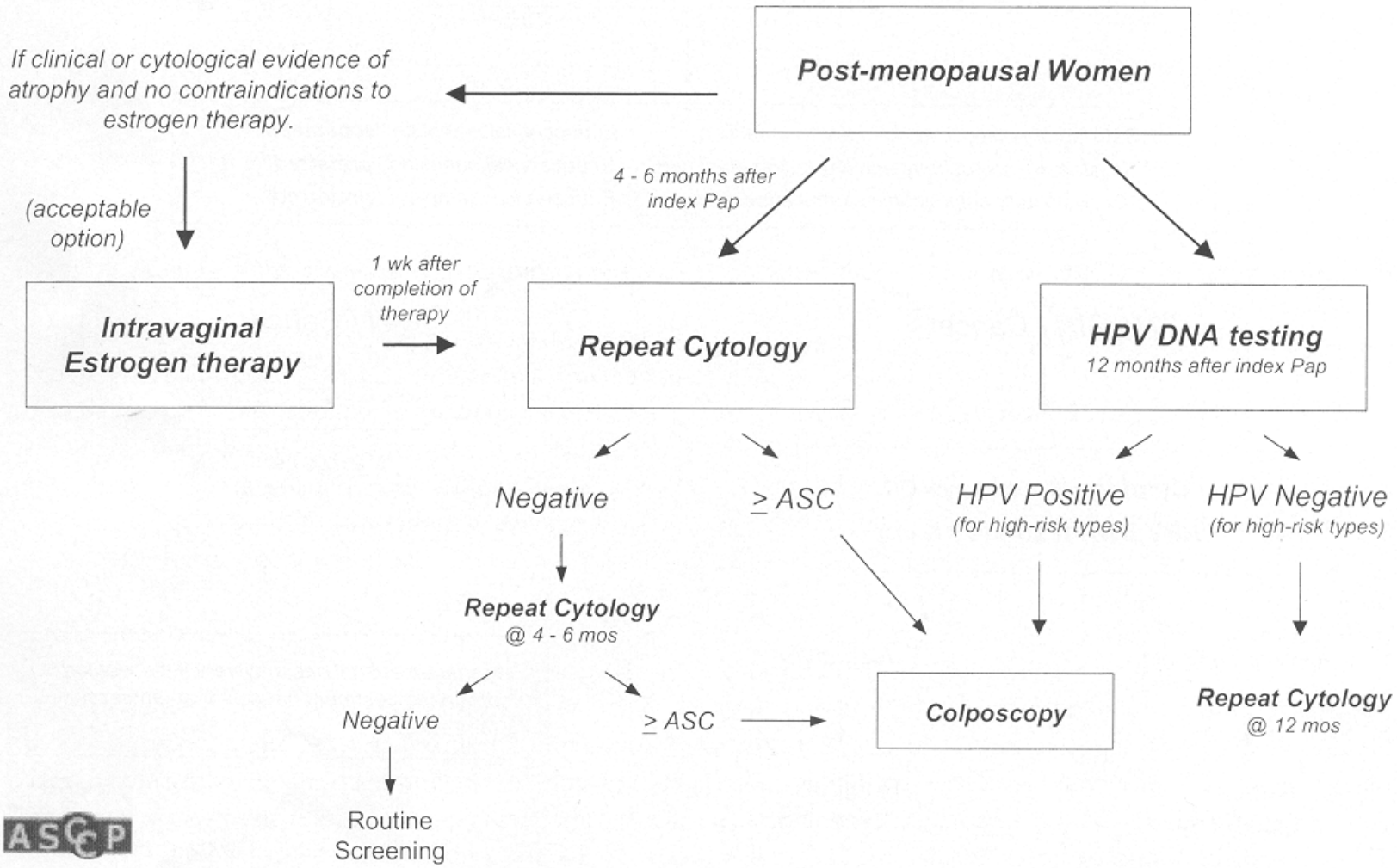

Figure 6.

Management of Women with Low-grade Squamous Intraepithelial Lesions In Special Circumstances

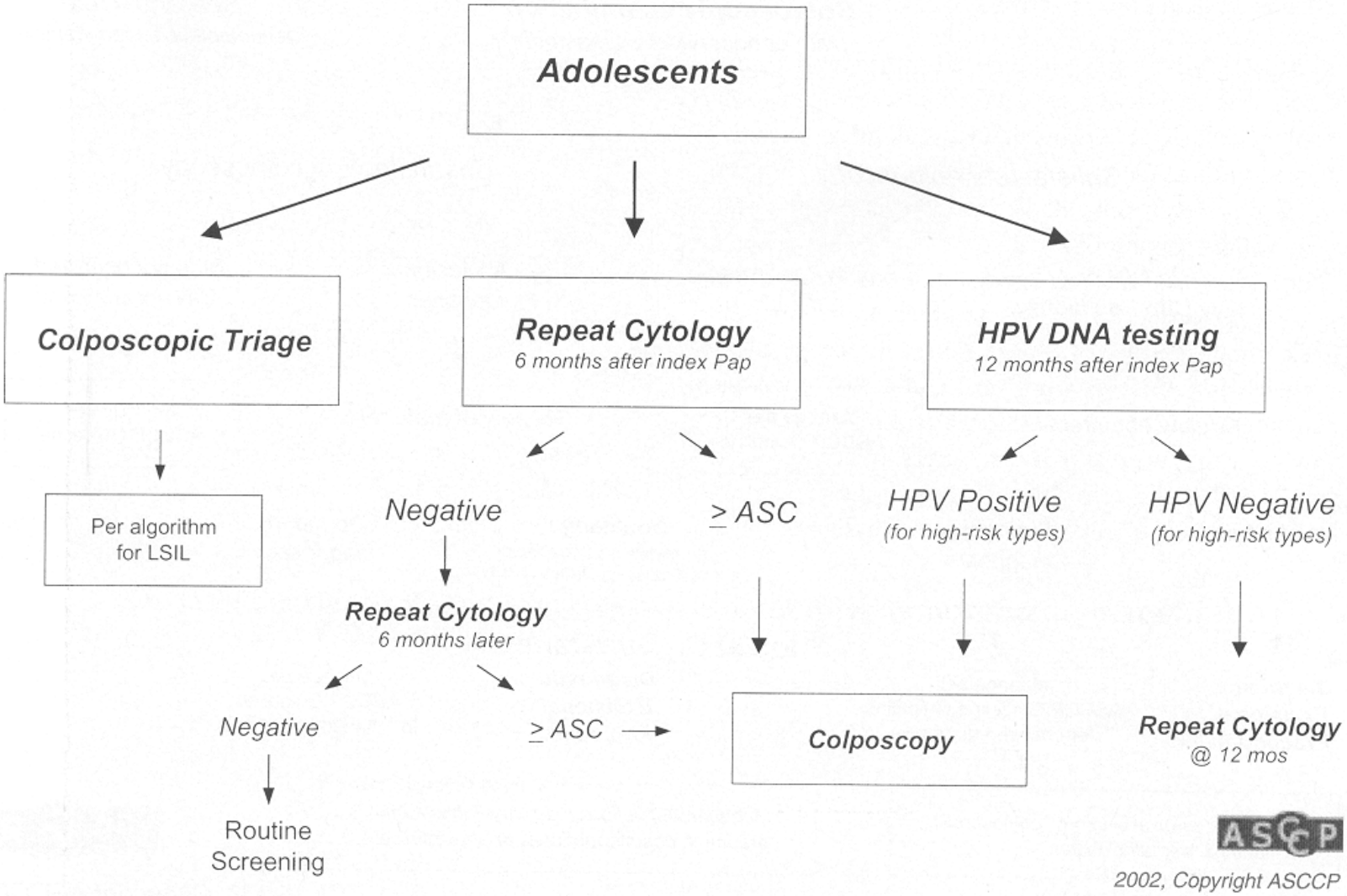

Figure 7.

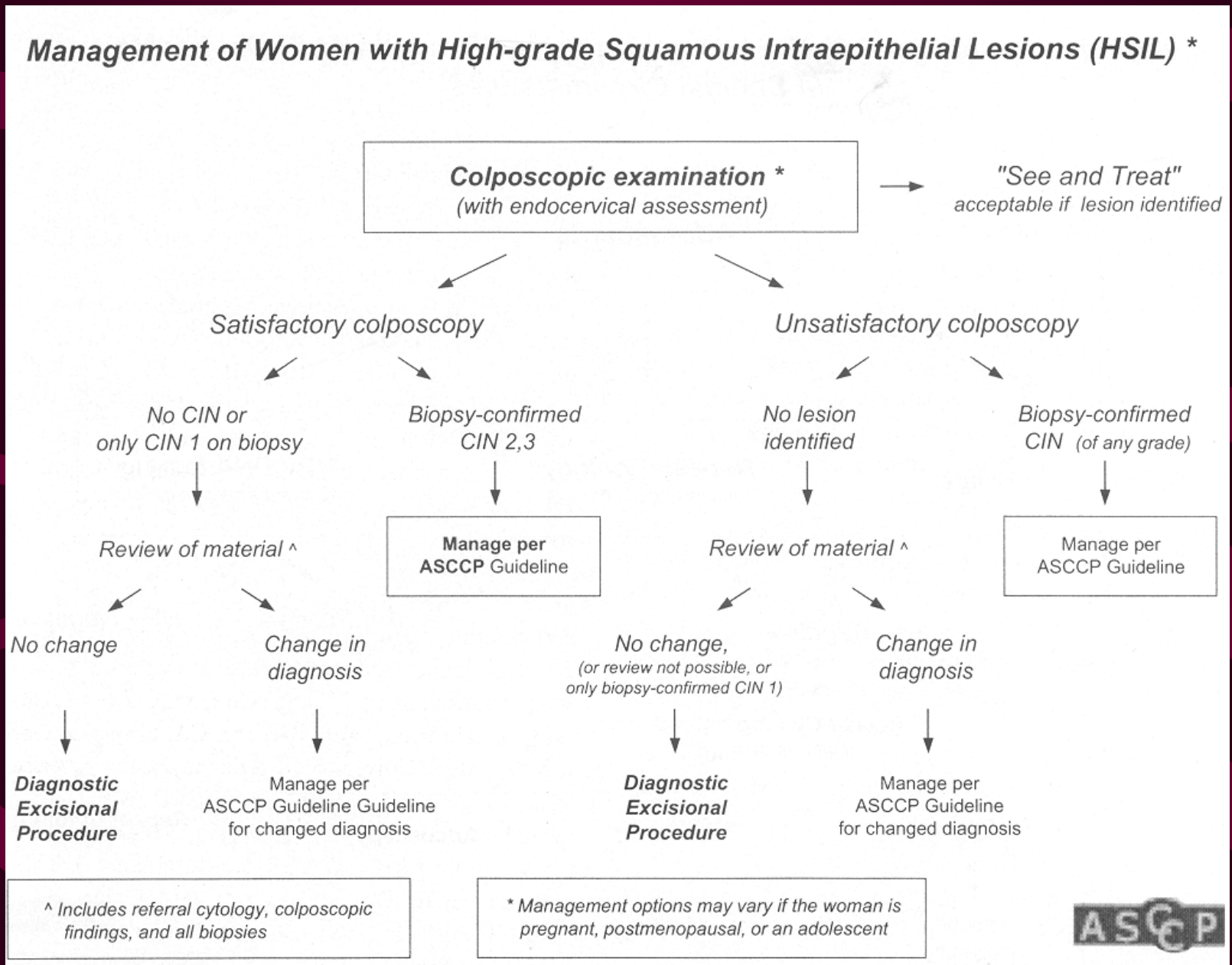
Management of Women with High-grade Squamous Intraepithelial Lesions (HSIL) *
Colposcopic examination *
(with endocervical assessment)
"See and Treat"
acceptable if lesion identified
Satisfactory colposcopy
Unsatisfactory colposcopy
No CIN or
only CIN 1 on biopsy
Biopsy-confirmed
CIN 2,3
No lesion
identified
Biopsy-confirmed
CIN (of any grade)
Review of material ^
Manage per
ASCCP Guideline
Review of material ^
Manage per
ASCCP Guideline
No change
Change in
diagnosis
No change,
(or review not possible, or
only biopsy-confirmed CIN 1)
Change in
diagnosis
Diagnostic
Excisional
Procedure
Manage per
ASCCP Guideline Guideline
for changed diagnosis
Diagnostic
Excisional
Procedure
Manage per
ASCCP Guideline
for changed diagnosis
^ Includes referral cytology, colposcopic
findings, and all biopsies
* Management options may vary if the woman is
pregnant, postmenopausal, or an adolescent
ASCCP
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Figure 8.